

REMARKS

This application pertains to a novel multilayer film useful as a packaging material.

Claims 1-24 are pending.

Claims 1-24 stand rejected under 35 U.S.C. 103(a) as obvious over Reiners et al. (WO00/013866), taking US 7,070,852 as an English language equivalent, in view of Park (WO00/015697), taking US 6,720,362 as an English language equivalent.

Applicants note that Park (WO00/015697) is in fact an English language document, but for consistency will base all comments on US 6,720,362.

The Examiner contends that Reiners discloses almost identical claims, but acknowledges that Reiners does not disclose "the amount of nucleating agent and the type of nucleating agent", but argues that it would be obvious use the amounts of nucleating agents as set forth in Park in the foam layer of Reiners et al. for the purpose of controlling the cell size of the layer."

Reiners pertains to a multilayer packaging film having the following sequence of layers:

- A) a base layer of a polyolefin foam,
 - B) a layer based on at least one polyolefin of the foam layer A),
 - C) optionally a tie layer composed of a polyolefin, which is preferably based on the monomer that is the main monomer of the polyolefin of the foam layer A),
 - D) optionally an adhesive layer,
 - E) optionally a gas- and/or flavortight barrier layer,
 - F) an adhesive layer,
 - G) an optionally sealable and/or peelable surface layer,
- whereby the total thickness of layers A) and B) ranges from 0.5 to 2 mm and the thickness of layer B) ranges from 1/6 to 1/2 of the thickness of layer A).

Reiners does not, of course, teach or suggest anything at all about even the possibility of including a nucleating agent in his foam layer "A".

Reiners teaches that his layer "B", which is not a foam layer, can contain a white pigment. This has nothing to do with the foam layer "A" however.

Park, on the other hand, pertains to a cellular thermoplastic polymer foam having an average cell diameter of greater than 4 mm. Park's foam is useful as a sound insulating material.

Park has nothing to do with packaging materials, and Reiners has nothing to do with sound insulating materials.

Park, at col. 5, lines 1-13, teaches that:

Optionally, a nucleating agent may be added to the foamable blend. The amount of nucleating agent employed to prepare the foams of the present invention will vary according to the desired cell size, the foaming temperature, and the composition of the nucleating agent. For example, when a large foam size is desired, little or no nucleating agent should be used. Useful nucleating agents include calcium carbonate, barium stearate, calcium stearate, talc, clay, titanium dioxide, silica, barium stearate, diatomaceous earth, mixtures of citric acid and sodium bicarbonate. When utilized, the amount of nucleating agent employed may range from 0.01 to 5 parts by weight per hundred parts by weight of the polymer resin blend (pph).

It would therefore seem that the presence of a nucleating agent has something to do with the size of the cells of the foam, which those skilled in the art would understand might be a factor in the ability of the foam to insulate sound.

Nowhere, however, does Park teach or suggest anything about a multilayer film comprising a foam layer, and nowhere does Park teach or suggest anything about any effect a nucleating agent in the foam layer of a multilayer film having such a layer could have on the physical properties of such a multilayer film.

Applicants have previously pointed out that it was surprising that, in comparison to the known multilayer film disclosed in Reiners, the present multilayer film exhibits an unexpected improvement in mechanical properties such as in rigidity measured by the modulus of elasticity in machine direction and in tensile stress. This is clearly demonstrated by the experimental data provided in the application text (Example 1 and Comparative Example 1; Table 2). A copy of Table 2 is reproduced below:

Table 2

Mechanical value	Example 1	Comparative example 1
Modulus of elasticity (machine direction) [MPa]	703	519
Modulus of elasticity (transverse direction) [MPa]	280	280
Tensile stress (machine direction) [MPa]	12.0	9.3
Tensile stress (transverse direction) [MPa]	9.5	7.4
Cycle times [cycles/minute]	9	8

The Examiner will note from page 13, lines 7-12, that the multilayer film of the comparative example was exactly the same as that of the inventive example, except that the foam layer of the inventive layer contained a nucleating agent and the foam layer of the comparative film did not.

It should also be noted that the Examiner has argued that Reiners' multilayer film is almost identical to Applicants', except for the nucleating agent. Accordingly, the comparisons made in Table 2 is a fair comparison of Applicants' multilayer film to that of the Reiners reference.

The data clearly demonstrate unexpected advantages of Applicants' multilayer film over anything that could be derived from the Reiners/Park combination of references.

In responding to Applicants' previous remarks, the Examiner argues that it would be obvious to use the nucleating agents of Park and control their amounts in order to control the cell size of the foamed layer. There is, however, nothing in the Reiners reference that would indicate any need to control the cell size of the foamed layer, and nothing in Park that would suggest that a nucleating agent would control the cell size. All Park says in that regard is that the amount of nucleating agent used in his sound-insulating foam will vary "...according to the desired cell size, the foaming temperature and the composition of the nucleating agent. For example, when a large foam size is desired, little or no nucleating agent should be used."

No one reading Park would see any need for or benefit of a nucleating agent in the foam layer of Reiners' multilayer packaging film.

Of greater importance, however, is the fact that no one reading the Reiners/Park combination of references would have any idea that a multilayer film such as Applicants', including nucleating agents in the foam layer, would produce such unexpected advantages as those demonstrated in Applicants' Table 2 of data.

In response to Applicants having pointed out these unexpected advantages, the Examiner argues that:

"The unexpected results must be argued in comparison to the rejection on the record, which is not just the Reiners et al. reference but also contains the secondary reference which teaches the instantly claimed nucleating agent range".

This is not correct. The Examiner has argued that it would be obvious to use Park's nucleating agent in the foam layer of Reiners' multilayer film.

Obviousness is rebutted by a showing of unexpected advantages. Applicants have shown that the use of a nucleating agent in the foamed layer of their multilayer film produces advantages that were totally surprising over anything that could have been expected from the Reiners/Park combination of references.

The Examiner seems to be arguing that Applicants need to compare their invention to itself, which is clearly not the law.

In view of the present amendments and remarks, it is believed that claims 1 - 24 are now in condition for allowance. Reconsideration of said claims by the Examiner is respectfully requested, and the allowance thereof is courteously solicited.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, Applicant requests that this be considered a petition therefor. Please charge the required petition fee to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fee or credit any excess to Deposit Account No. 14-1263.

Respectfully submitted,
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